

Abstract for LBA 3rd Scientific Congress, Brasília, 27-29 July 2004

**BIOMASS OF AMAZONIAN FOREST AND GREENHOUSE GAS EMISSIONS:
NEW DATA AND CONTROVERSIES**

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Greenhouse gas emissions from deforestation are almost directly proportional to the biomass of forest cleared. Existing estimates of emissions from Amazonian deforestation vary by more than a factor of two, largely because of widely varying degrees of completeness in the components included. Other critical portions of the calculation include the growth of secondary forests in deforested areas and the inclusion of inherited and/or committed emissions (or neither). Inclusion of all relevant factors results in estimates for emissions double those of some prominent estimates.

New data indicate that commonly used wood density estimates need to be adjusted downward by 12.1%. Adjustments to biomass and emissions are sufficiently large to be significant for the global carbon balance. For example, an estimate of net committed emissions of 231×10^6 Mg CO₂-equivalent C/year for Brazilian Amazonia in the 1990, of which 204×10^6 Mg CO₂-equivalent C/year was from net removal of biomass, would be reduced by 38×10^6 Mg CO₂-equivalent C/year (14.9%: more than the 12.1% adjustment to gross emissions because regrowth estimates remain unchanged). Decreases of similar proportions would apply throughout the tropics. For the 1980s adjustments to net emissions total 240×10^6 Mg C/year for CO₂ effects alone, or approximately 277 Mg CO₂-equivalent C/year including trace gases. We emphasize that the revised density values will not reduce the discrepancies between the various published estimates for forest biomass and emissions in Amazonia and for the tropics as a whole; instead, all estimates will shift in parallel to a lower level.